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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Charles Frederick James BARNES

Conf. No.: **5982**

Appln. No.: **10/690,569**

Group Art Unit: **2655**

Filed: **October 23, 2003**

Examiner: **Unknown**

For: **INFORMATION STORAGE SYSTEMS**

**INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. §§ 1.97 and 1.98**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form which the Examiner may deem material to patentability of the claims of the above-identified application.

A copy of each of the listed documents (other than any U.S. patents and/or publications), is submitted herewith.


The present Information Disclosure Statement is being filed after three months from the application's filing date; but before the mailing date of the first Office Action on the merits. Therefore, no Statement under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed

INFORMATION DISCLOSURE STATEMENT
U.S. Appln. No. 10/690,569

document as a competent reference against the claims of the present application.

Respectfully submitted,



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WASHINGTON OFFICE

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CUSTOMER NUMBER

Date: May 20, 2004

Substitute for Form 1449 A & B/PTO

Complete if Known

Application Number	10/690,569
Confirmation Number	5982
Filing Date	October 23, 2003
First Named Inventor	Charles Frederick James BARNES
Art Unit	2655
Examiner Name	Unknown
Attorney Docket Number	Q-72585

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet

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of

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U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
		Number	Kind Code ² (if known)		
		US 6,272,083		08/07/2001	Aratani
		US 6,078,471		06/20/2000	Fisk
		US 6,353,317		03/05/2002	Green et al
		US 5,606,474		02/25/1997	Ketchersid III
		US 6,081,402		06/27/2000	Cho
		US 5,264,975		11/23/1993	Bajoreket et al
		US 6,320,725		11/20/2001	Payne et al
		US 5,212,680		05/18/1993	Toupin
		US 5,739,975		04/14/1998	Parks et al
		US 4,903,151		02/20/1990	Mizukami et al
		US 4,636,893		01/13/1987	McClure
		US 5,227,211		07/13/1993	Eltoukly et al
		US 5,995,338		11/30/1999	Watanabe et al

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Translation ⁶
		Country Code ³	Number ⁴	Kind Code ⁵ (if known)			

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published.	Translation ⁶
		Carley et al, <i>Communication of the ACM</i> , 43(11):73-80 (2000)	
		Solin et al, "Giant Magneto Resistance in Zero-gap HgCdTe", www.neci.nj.nec.com/homepages/thio/gmr.htm	
		"Composite Diamond Coating", Information Sheet, www.surfacetechnology.com	
		"Artificial Diamond Coating and Thin Film Technologies", Information Sheet, Technologies of RRC Kurchatov Institute www.kiae.ru/eng/str/technology/t8.html	
		"Diamond Films for Microelectromechanical Systems (MEMS), Information Sheet, www.techtransfer.anl.gov/techtour/diamondmems.html	
		Mohn, <i>Nature</i> , 400:18-19 (1999)	
		"Glass Substrate for Magnetic Disk in HDD, Information sheet, http://www7.big.or.jp/~cgi19786/ngf/nglass/ng06e.html	
		"Zero Expansion Glass and Glass Ceramics", Information sheet, http://www7.big.or.jp/~cgi19786/ngf/nglass/ng06e.html	
		"Ultra Low Expansion Glass", Information sheet, www.pgo-online.com/intl/jse/frameroute/genericset.html?Content=/intl/katalog/ule.html	
		Aschke, "Fit for Future Chip Technology", Company Profile on Schnott Lithotec, http://www.schott.com/magazine/English/download/info99/si099_02_euvt.pdf	
		"Controlled Expansion Alloys", Comparison Table from Daido-Special Metals LTD, http://www.dsml.co.jp/english/controlled_expansion.htm	
		McDaniel, "Vsuvius Zyrock", A Cookson Company Information Sheet, http://www.techceramics.com/fusedsilica.html	

Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kind Codes of USPTO Patent Documents at www.uspto.gov, MPEP 901.04 or in the comment box of this document. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to indicate here if English language Translation is attached.

Substitute for Form 1449 A & B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				<i>Complete if Known</i>	
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Sheet	2	of	2		

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FOREIGN PATENT DOCUMENTS							
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		Country Code ³	Number ⁴	Kind Code ⁵ <i>(if known)</i>			
		EP	0 463 908		06/11/1991	Thomson-CSF	Abstract
		EP	0 895 237		02/03/1999	Samsung Electronics Co., Ltd.	
		EP	1 114 393		07/11/2001	Sumitomo Electric Industries, Ltd.	
		EP	1 156 479		11/21/2001	Mitsubishi Chemical Corporation	
		EP	1 381 031		01/14/2004	Jean-Pierre NOZIERES	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published.	Translation ⁶
		"Thermal Properties, GE Quartz, http://www.gequartz.com/en/thermal.htm	Info Sheet
		"The Art of the Quantum Leap", Economist Story, http://www.economist.com/science/tq/displayStory.cfm?Story_ID=885080	
		"Giant Magnetoresistance", http://srdweb2.dl.ac.uk/srs/other/ow/MAGNETISM/Giant_Magneto.html	Info Sheet
		"Lubricants for disks", http://www.almaden.ibm.com/st/projects/lubricants/lube/	Info Sheet-Pg Discont.
		"M5.004 Challenges of Head-Disk Interface Tribology for Ultrahigh Density Magnetic Recording", Invited Session by Jing Gui; http://www.eps.org/aps/meet/MAR00/baps/abs/S4840004.html	
		"Tribology of Magnetic Media and Recording Technologies"	Intro page
		"Technology Research and Development - Basics of Magnetic Recording", http://www.infomrt.com/readrite/magbasis.html	Info Sheet
		"HMT Delivers Volume Shipments of Advanced GMR Media to Maxtor", http://www.semiconductorfabtech.com/industry.news/9911/10.02.shtml	News Story
		"Evolution of HSS Head"	Info Sheet
		"Technology", Headway Technologies, http://www.hdwy.com/technology/technology.html	Article
		Caruso et al, "A New Perspective on Magnetic Field Sensing", http://www.et.byu.edu/cit444/Links/SensorsDec1998/SensorsMagFieldDec1998.shtml	
		Singer, "Hard Disk Recording Aims to Get Perpendicular", http://www.reed-electronics.com/semiconductor/article/CA240215?text=hard+disk+recording+aims+to+get+perpendicular	
		Brain, "How Hard Disks Work", www.howstuffworks.com/hard-disk.htm	
		"Fujitsu and Sony Develop World's First 1.3GB 3.5-inch MO Disk System Prototype; http://pr.fujitsu.com/jp/news/1998/Nov/5-e.html	News Article
		"Hard Disk Tutorial", http://stweb.peel.edu.on.ca/pcswb/Pc_tut/04disks.htm	
		"Giant Magnetoresistance When Big Hard Drives Aren't Big Enough", http://www.wired.com/archive/4.05/geek/html	Article
		"Headway Technologies", http://www.hdwy.com/technology/technology.html	Article
		"Single vs. Multiple Actuators", http://www.pcguide.com/ref/hdd/op/actMultiple-c.html	Article
		"Storage/Hard Disks", http://www.pctechguide.com/04disks.htm	Info Sheet
		"What is RAID?", http://www.uni-mainz.de/~neuffer/scsi/what_is RAID.html	Article

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